

## **SUMMARY/BACKGROUND**

- The European gypsy moth (EGM), *Lymantria dispar*, is one of the most destructive pests of hardwood forests and shade trees in the U.S., and is known to defoliate millions of acres of trees in a single season.
- The EGM can feed on over 500 plants. Both hardwoods and conifers are fed upon. Young caterpillars feed primarily on oaks, aspen, birch, willows and alder. Older caterpillars feed on a broader range of trees including cedar, pine, spruce and fir.
- Large numbers of caterpillars can completely defoliate trees, making them susceptible to other stresses such as drought and disease. The defoliation caused by the gypsy moth alters forest composition, destroys habitat for other animals, and can lead to tree death.
- Gypsy moth infestations affect recreational use of forests, parks and backyards. Swarms of caterpillars discourage tourism and many other outdoor activities. The hairs on the caterpillars are known to cause rashes and allergic reactions. In urban areas, the economic impact includes clean-up costs, tree replacement costs and loss of property values.
- The EGM became established in the United States in 1869 in Massachusetts and has spread steadily throughout the Northeast. It now occupies 19 states as far south as North Carolina and as far west as Wisconsin. It has so far been prevented from establishing in the western U.S. by targeted eradications when new infestations are found.

## **LIFE CYCLE**

- The EGM spends the winter in the egg stage and hatches in late February through April. Emerging caterpillars move to the tops of trees and can be carried many miles on wind currents. Adults emerge between June and August.
- EGM females cannot fly and rely on the caterpillars to disperse.
- Female moths emit a sex attractant (pheromone) that allows the male to find her. After mating, the female lays a single egg mass containing from 100 to 1,000 eggs on any available surface, including trees, rocks, fences and other manmade outdoor articles.
- The EGM do not feed in the moth stage; rather, the caterpillar stage does all the damage.

## **ERADICATION PROGRAM**

- The most common eradication method used against EGM is application of naturally-occurring *Bacillus thuringiensis kurstaki* (Btk) bacteria.
- Btk disrupts the digestive system of caterpillars that ingest the leaves, thereby suppressing their appetites, and can lead to secondary infections because their gut wall is damaged. Caterpillars that have ingested Btk stop eating and perish. Btk does not cause this effect in other animals.
- Host trees and plants are treated every two weeks for at least six consecutive weeks during the spring with a handheld hose. Normally only one season of treatment is needed.

## **MORE INFORMATION IS AVAILABLE**

CDFA - [www.cdfa.ca.gov/phpps/](http://www.cdfa.ca.gov/phpps/)  
CDFA Pest Hotline: 800-491-1899  
APHIS/USDA - [www.aphis.usda.gov](http://www.aphis.usda.gov)



Gypsy moth caterpillars  
Credit: [www.ca.uky.edu](http://www.ca.uky.edu)



Gypsy moth female  
Credit: John H. Ghent, USDA Forest Service,  
[www.forestryimages.org](http://www.forestryimages.org)